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Aligning Manufacturing with the Supply Chain

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Supply chains are fraught with conflicts between their various links. Many manufacturers try to win at the expense of downstream links in their own supply chain. The rule of thumb is "do unto others before others do unto you." The wins are short term. Things get better, for a while. Then, there is usually deterioration to an even worse level. Efforts to get ahead finally result in slipping behind. The business becomes more and more complex, hectic and fragile. Is this inevitable in the 21st century? Will we have to work harder every year just to earn less?

Symptoms

Manufacturers force distributors to buy big quantities, requiring long production runs. Of course, while running big batches, orders arrive for other items. Good customers demand manufacturers move *their* orders up in the production queue. Production schedule shuffling causes more costs and shortages, blocking sales. Then, about the time the plant gets efficient at making an item, consumers begin to want something new.

Remember the distributors who were induced to buy too much at a time? The result is increased inventory levels. Most distributors, in turn, offer quantity discounts to retailers. The result is, of course, large orders which require distributors to hold even higher inventory levels. High inventories raise distributors' costs, squeezing profits. Counter intuitively, the high inventories cause shortages of other items due to cash squeeze. Low inventory of some items equals lost sales.

The retailers sold by distributors have to buy too much to get a decent cost, without which they can't compete. High inventories use up their limited cash, reducing the selection in their stores. Customers are drawn away by competitors who display a broader range. Since retailers order large amounts and their cash is squeezed, they can't order as often, reducing their ability to respond quickly when they need more product. Like the others in this simple supply chain example, costs go up and revenues decline.

It's like a domino effect; lower profits are the rule for every link in traditional supply chains. Given this description, it sounds like insanity. What is the other side of the story? It can't be that this behavior is repeated at every point along the chain for no good reason. To the contrary, every manager along the way has an excellent reason and incentive to do things just the way they are being done.

Using cost accounting as the prime form of measuring local improvement, the entities in a supply chain, even divisions of the same company, feel the need to show good results in their area. The drive for local improvement is much stronger than the drive for a win-win global optimum. Nearly every manager is held accountable for how his or her area performs. There is a sense of fair play in this. It isn't fair to hold one manager back just because of another manager's mistakes. Is it? Unfortunately, a company's results depend on not just a division or even the whole company but how the entire supply chain performs. If the retailers that sell a manufacturer's goods have shelves and warehouses clogged with slow moving inventory, a lack of funds and stomach keeps them from buying more of the manufacturer's product. The manufacturer can't sell more until time resolves the blockage. Very few managers are held accountable or even receive any significant feedback on how the whole system performs.

Manufacturers feel the need quickly push goods out into the supply chain so they can record a *local* profit. *Local* efficiency is also a major driver, which induces manufacturers to make large production runs, even if some of the products are not truly in demand. *Local* results blind a manufacturer from seeing the true ramifications of their actions. Companies downstream in the supply chain suffer from too much inventory and when they do, it isn't long before the glut of inventory makes orders drop off at the manufacturing level. Perhaps worse is that the manufacturer sees large fluctuations in demand. Plants are stressed beyond capacity one week and virtually idled another.

A Wish List

If manufacturers could have it all, for what would they wish?

- Greater profits
- Increased sales
- Steady demand at the plants
- Faster payment
- Higher prices
- The ability to take advantage of quick turnaround opportunities
- A competitive sales advantage

But are all these results possible?

In order to align manufacturing with the supply chain, it is important to understand what drives these habits, how damaging the side effects are to all links in a supply chain, and how we go about resolving this conflict. By making the necessary paradigm shift that will be illustrated, the manufacturer relieves friction that exists with other customers in the supply chain, helps to meet true end consumer demand, and at the same time, stimulates increased sales for all links in the supply chain

Causes of Supply Chain Misalignment

Many manufacturers today use local efficiencies, such as large production runs (batching) to drive down their costs. They strive to be as efficient as possible, so in addition, they rarely let a resource stand idle. They believe that batching and constantly running resources will increase productivity, save setup time, and cut production costs. Because a manufacturer's profits are usually driven by shipments to the next link in the chain, they keep pushing inventory into the distribution channel as quickly as possible, and consider it a sale on their books, with no consideration to excess inventories downstream. In order to get rid of inventory, the manufacturer often gives the distributor incentives to purchasing large amounts of inventory. The distributor is tempted with quantity discounts and lower transportation rates for bigger shipments. The distributor becomes limited with cash, due to taking on these high levels of inventory, and in turn uses pricing and incentives to force the products onto the retailers. Retailers accept the large inventory push from the distributor for several reasons: They want the lowest costs to maintain the highest possible margins on their sales, they want to display a broad product line to stay competitive with other retailers that sell similar products, and lastly, they want protection from stocking out and missing sales.

Negative Side Effects of Supply Chain Misalignment

The negative side effects resulting from the manufacturer's initial push of large inventories into the supply chain are immense and can be detrimental to a company's bottom line. The manufacturer creates excess inventory of some products while delaying production of other products in higher demand. This results in longer lead times and longer replenishment times. At the distribution level, the longer the inventory sits in their warehouse, the higher the risk for declining prices and obsolescence; both of which will significantly reduce the distributor's profits. Another devastating side effect for both the manufacturer and distributor is that by pushing the inventory out, reaction time to changing trends in end user consumer demand is slowed. When a trend or fad changes, sales opportunities are missed because it takes too long before either the distributor or manufacturer become aware of the changes, as reflected in the orders. Negative ramifications are most devastating at the retail level. The retailer usually ends up with much more inventory than they actually need to cover end consumer demand. Frequently, by the time the inventory makes it to the shelves, the products are no longer in line with end consumer demand. Retailers are forced to run promotions and offer discounts to move the products. Slow moving products sit on the shelves, blocking the way of newer products in high demand. This often results in customers walking out of stores when they don't find what they are looking for.

Putting a Stop to the Push

How can all the components of a supply chain overcome this dilemma caused by the practice of pushing? How can they work harmoniously to align, meet end consumer demand, and achieve their bottom line goals? Every component of the supply chain, starting with the manufacturers, must adopt a new attitude of *"as long as the end consumer has not bought, nobody in the supply chain has really sold"*.[1] When the end consumers demands are not met, the repercussions echo throughout the supply chain. The dilemma the supply chain faces is "how do we reduce shortages and protect sales, while at the same time reduce the high levels of inventory sitting in the supply chain?" Putting a stop to the push is a crucial action. By implementing a Pull System, the supply chain drastically reduces inventory levels, while at the same time, effectively meets end consumer demand and protects sales. A Pull System is a method of controlling the flow of products through the supply chain by automatically adjusting inventories to what is consumed. Consumer demand is used to drive production as well as when and how much product is restocked and reordered. Customer demand pulls from protective stock held close to the point of use in the supply chain. This acts as a shock absorber and allows manufacturing to produce only what was consumed and on its schedule.

Aligning Manufacturing through the Pull System

With the implementation of a Pull System at the manufacturer level, practices such as batching and running lines just to improve efficiencies stop. This reduces unneeded inventory from being pushed out into the supply chain. Point of sale data is reported back to the manufacturer, decreasing production reaction time. Production is more available to respond to true consumer demand. The faster reaction time to changes in consumer demand leads to increased sales, and fewer stockouts and obsolescence. Pricing is no longer based on order size, but rather on total annual consumption.

[1] Eliyahu M. Goldratt, Insights Into Distribution and Supply Chain, Goldratt's Marketing Group.

Since the manufacturer can replenish more quickly, the distributor is able to hold less of each SKU. The distributor also concentrates on replenishing the retail level much quicker. Reduced inventory in their warehouse frees up cash and allows the distributor to react to consumer trends quickly. They are able to carry and offer a much broader variety of products. In exchange for quicker replenishment and better service, distributors minimize discounting and earn more shelf space at the retail level.

The retail level will benefit from the Pull System by having sufficient stock of each product at the right time to match end consumer demand. Customers more frequently find what they need, when they need it, where they need it, and complete a purchase. With the reduction of inventory, the retailer can offer a wider variety of products on their shelves and thus increase sales from the same physical space. There is a decline in markdowns and sales to get rid of older, slow moving items. Furthermore, old items don't block newly introduced products from the market.

In Summary

When a manufacturer stops pushing and implements a pull system, a beautiful alignment of the supply chain falls into place. Sales are increased by the win-win nature of the new policy; throughout the supply chain inventory turns and profits increase because downstream components feel comfortable holding less inventory when they receive quicker replenishment. In the end, consumer satisfaction increases and strengthens the whole supply chain back up to the manufacturer. Although this is truly a wonderful solution, a real challenge lies ahead. The road to achieving this solution can be bumpy. IDEA helps companies maneuver through these bumps. Our knowledge and experience help to implement the thinking and behaving which is required. Making this paradigm shift is a difficult task, but the results far outweigh the risks.

IDEA's Way of Thinking

- *Neither an accurate forecast nor changing vendors is required for success*
- *There is a way to both increase sales and reduce inventory*
- *Supply chains sell less when clogged with inventory*
- *In the long term, unless the supply chain sells more no link can sell more*
- *We must help clients gain buy-in internally and with supply chain partners*
- *The majority of our fees are based on improved return on inventory*

IDEA's Method

- *Verify the existence of inventory imbalances and the benefits of moving from a "Push" to a "Pull" system*
- *Gain top management buy-in to the assessment and support of the approach*
- *Build knowledge and understanding across the supply chain, at all levels*
- *Utilize systems that deliver actionable information, integrated with existing software*
- *Work with you until expected results are achieved*
- *Share the tools and know-how to continually improve results*

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